UNITED STATES PATENT OFFICE.

FREDERICK E. GOLDSMITH, OF HAMILTON, OHIO, ASSIGNOR TO THE CERAMIC MACHINERY COMPANY, OF HAMILTON, OHIO.

MACHINE FOR COATING TILES, &c.

1,035,959. Specification of Letters Patent. Patented Aug. 20, 1912.

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To all whom it may concern:

Be it known that I, FREDERICK E. GOLDSMITH, a citizen of the United States, residing at Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Machines for Coating Tiles, &c., of which the following is a specification.

This invention, pertaining to machines for coating tiles &c. will be readily understood from the following description taken in connection with the accompanying drawing in which:—

Figure 1 is a vertical longitudinal section of a machine exemplifying my invention: and Fig. 2 a side elevation of an exemplifying mottling roll.

The tile, carried forward by receiving apron 1, is carried onward by rolls 2 and 3, which rolls are more or less immersed in coating material kept at a constant level in vat 4 by being fed thereinto through supply opening 5, the level of the coating material in the vat being determined by the height of adjustable end-gate 6. The tile then moves forward over roll 7, supplied with coating material from the overflow at end-gate 6 and then passes over air-blast pipe 8 to intermediate apron 9, of sufficient length to satisfactorily dry the tile, the tile then passing over mottling rolls 10 and 11 more or less immersed in coating material in tank 12 supplied through opening 13 and having its level regulated by end-gate 14, the tile then being carried away on discharge apron 15.

All the rolls and aprons are to be continuously driven by power. The rolls illustrated, with the exception of roll 10, are of the known loose eccentric foraminous shell type, in which type of rolls the coating material carried up in the first lunar space between the core and the shell becomes expressed upwardly through the shell and delivered to the lower face of the tile, the second space of the given roll being comparatively free from the coating material. Rolls acting in this manner are true coating rolls inasmuch as it is their function to receive coating material and deliver it to the tile.

Assuming rolls 2 and 3 to be acting as true coating rolls, roll 2 will deliver a coating of certain thickness to the tile, and to this will be added an additional thickness produced by roll 3, the two rolls thus being capable, in dealing with certain classes of coating material, of yielding a thicker coating than could otherwise be done with that material. When the coating rolls 2 and 3 act after the manner of true coating rolls, and regardless of whether there be one or more of these rolls, end-gate 6 will be comparatively low and the rolls in vat 4 be but partially immersed.

The coating produced by rolls 2 and 3, owing to the rather heavy character of the work done by them, is quite apt, with some characters of coating material, to leave the work more or less rough or pitted. Roll 7 acts as a finishing roll to cure defects. It is less liberally supplied with coating material than rolls 2 and 3 and its covering should be finer. As the rear corner of the tile leaves finishing roll 7 there may be, in some cases, a tendency for the corner to accumulate an excess amount of coating material. The air-pipe 8, in addition to the general drying of the surface of the tile as it passes over it, serves to blow rearward on the surplus coating material in question and cause that surplus to be taken up by roll 7 or, to put it in other words, the air-blast, in connection with the rear corner of the tile, resists the delivery of an excess quantity of coating material by the roll.

The balance of the mechanism is to be employed only in case a secondary or mottling effect is to be produced upon the tile. Rolls 10 and 11 produce such spotting or mottling effect as is desired. One mottling roll alone will accomplish this result but the effect will be mechanical, mathematical and unbeautiful when a number of the mottled tiles are placed in association. In the present case rolls 10 and 11, regardless of whether their mottling elements are alike or different, are different in diameters and construction, roll 10 being an ordinary mottling roll, while roll 11 is of the eccentric loose shell type, the shell being free to swing and turn and slip more or less independent of its core. The result is that the mottling produced by the conjoint action of the two mottling rolls is of an ever-changing character.

The rolls in vat 4 have thus far been considered as true coating rolls. But there are conditions of coating as regards consistency of material and desired thickness of coating, which cannot be satisfied by rolls acting as coating agents. Under these conditions the